

IN THE CLAIMS

The following **Listing of Claims** replaces all prior versions and listings of claims in this application. Claims 1-16 were pending of which claims 9-16 have been withdrawn from consideration. Claims 1 and 5-7 have been amended. Claims 2-4 and 8 have been cancelled. .

LISTING OF CLAIMS

Claim 1 (CURRENTLY AMENDED). A method for modifying a surface of an interlayer insulating film that is formed by applying a coating solution on a substrate to form a coating film, and sintering the coating film at a predetermined temperature, the method comprising the steps of:

heating an inside of a reaction chamber that contains a substrate to a predetermined temperature; and

modifying a surface of the interlayer insulating film by supplying an oxidizing gas into the reaction chamber,

wherein the oxidizing gas is a mixed gas of hydrogen and oxygen.

Claims 2-4 (CANCELLED).

Claim 5 (CURRENTLY AMENDED). The method for modifying a surface of an interlayer insulating film according to ~~any one of claims~~claim 1 to 4, wherein during the step of modifying a surface of the interlayer insulating film, the surface of the interlayer insulating film is modified such that a surface energy of the interlayer insulating film is at least 80 mN/m.

Claim 6 (CURRENTLY AMENDED). The method for modifying a surface of an interlayer insulating film according to ~~any one of claims~~claim 1 to 4, wherein during the step of modifying a surface of the interlayer insulating film, the surface of the interlayer insulating film is modified

such that a surface contact angle of water on the surface of the interlayer insulating film is less than 40°.

Claim 7 (CURRENTLY AMENDED). The method for modifying a surface of an interlayer insulating film according to ~~any one of claims~~claim 1 to 4, wherein

the interlayer insulating film is formed of a coating solution including polysiloxane having an organic functional group-an interlayer-insulating-film-of-a-low-dielectric-constant.

Claim 8 (CANCELLED).

Claim 9 (WITHDRAWN). An apparatus for modifying a surface of an interlayer insulating film that is formed by applying a coating solution on a substrate to form a coating film, and sintering the coating film at a predetermined temperature, the apparatus comprising:

- a reaction chamber that contains the substrate;
- a heating unit that heats an inside of the reaction chamber to a predetermined temperature;
- an oxidizing gas supplying unit that supplies an oxidizing gas into the reaction chamber;
- and
- a controller that controls the heating unit and the oxidizing gas supplying unit.

Claim 10 (WITHDRAWN). The apparatus for modifying a surface of an interlayer insulating film according to claim 9, wherein

the oxidizing gas is any one of ozone, water vapor, oxygen, or a mixed gas of hydrogen and oxygen.

Claim 11 (WITHDRAWN). The apparatus for modifying a surface of an interlayer insulating film according to claim 10, wherein

the predetermined temperature is in a range of from 250° C. to 600° C.; and
the oxidizing gas is ozone.

Claim 12 (WITHDRAWN). The apparatus for modifying a surface of an interlayer insulating film according to claim 10, wherein

the predetermined temperature is in a range of from 250° C. to 600° C.; and
the oxidizing gas is a mixed gas of hydrogen and oxygen.

Claim 13 (WITHDRAWN). The apparatus for modifying a surface of an interlayer insulating film according to any one of claims 9 to 12, wherein

the controller controls the heating unit and the oxidizing gas supplying unit such that a surface energy of the interlayer insulating film is at least 80 mN/m.

Claim 14 (WITHDRAWN). The apparatus for modifying a surface of an interlayer insulating film according to any one of claims 9 to 12, wherein

the controller controls the heating unit and the oxidizing gas supplying unit such that a surface contact angle of water on the surface of the interlayer insulating film is less than 40°.

Claim 15 (WITHDRAWN). The apparatus for modifying a surface of an interlayer insulating film according to any one of claims 9 to 12, wherein

the interlayer insulating film is an interlayer insulating film of a low dielectric constant.

Claim 16 (WITHDRAWN). The apparatus for modifying a surface of an interlayer insulating film according to claim 15, wherein

the interlayer insulating film of a low dielectric constant is formed of a coating solution including polysiloxane having an organic functional group.